

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of Applications of)	
)	
SPECTRUM HOLDINGS TECHNOLOGIES,)	File Nos. 0005312838, <i>et al.</i>
LLC)	
)	
Construction Notification for 73 Local Multipoint)	
Distribution Service Stations)	
)	

MEMORANDUM OPINION AND ORDER

Adopted: June 5, 2014

Released: June 6, 2014

By the Deputy Chief, Broadband Division, Wireless Telecommunications Bureau:

I. INTRODUCTION

1. In this *Memorandum Opinion and Order*, we find that Spectrum Holdings Technologies, LLC (“SHT”) has failed to demonstrate substantial service for its 73 Local Multipoint Distribution Service Stations listed on Appendix A (“73 Stations”). Based on this determination, the licenses for these stations automatically terminated, by operation of Commission rule, as of July 31, 2012.

II. BACKGROUND

2. In 1997, the Commission allocated 1,300 megahertz of LMDS spectrum in each basic trading area (“BTA”) across the United States.¹ Specifically, the Commission allocated two LMDS licenses per BTA – an “A Block” and a “B Block” in each.² The A Block license is comprised of 1,150 megahertz of total bandwidth, and the B Block license is comprised of 150 megahertz of total bandwidth.³

¹ See Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission’s Rules to Redesignate the 27.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies For Local Multipoint Distribution Service and For Fixed Satellite Services, CC Docket No. 92-297, *Second Report and Order, Order on Reconsideration and Fifth Notice of Proposed Rulemaking*, 12 FCC Rcd 12545, 12605 ¶ 136 (1997) (“*Second LMDS Report and Order*”); see also Rand McNally Commercial Atlas & Marketing Guide 36-39 (123rd ed. 1992). Rand McNally is the copyright owner of the Major Trading Area (MTA) and BTA Listings, which list the BTAs contained in each MTA and the counties within each BTA, as embodied in Rand McNally’s Trading Area System MTA/BTA Diskette, and geographically represented in the map contained in Rand McNally’s Commercial Atlas & Marketing Guide. The conditional use of Rand McNally copyrighted material by interested persons is authorized under a blanket license agreement dated February 10, 1994 and covers use by LMDS applicants. This agreement requires authorized users of the material to include a legend on reproductions (as specified in the license agreement) indicating Rand McNally ownership. The Commission has allocated the LMDS for operations in a total of 493 BTAs throughout the nation.

² See 47 C.F.R. § 101.1005.

³ *Id.*

The A Block consists of the sub bands 27.50-28.35 GHz (the A1 Band); 29.10-29.25 GHz (the A2 Band); and 31.075-31.225 GHz (the A3 Band).⁴ The B Block consists of the sub bands 31.00-31.075 (the B1 Band) and 31.225-31.30 GHz (the B2 Band).⁵ The same entity may hold the licenses for both the A and B Blocks of spectrum in an individual BTA, but each license is auctioned and licensed separately.

3. LMDS licensees are regulated under Part 101 of the Commission's rules, which generally governs terrestrial microwave operations, and may provide any service consistent with the Commission's rules and the licensee's regulatory status,⁶ subject to a ten-year term from the initial license grant date.⁷ At the end of the ten-year period, licensees are required to submit an acceptable showing to the Commission demonstrating that they are providing "substantial service" in each licensed area.⁸ Failure by any licensee to meet this requirement results in forfeiture of the license and the licensee is ineligible to regain it.⁹

4. Since allocating the LMDS spectrum, the Commission has thus far held two LMDS auctions: Auction 17 and Auction 23.¹⁰ Auction No. 17, the first LMDS auction, began on February 18, 1998, and closed on March 25, 1998.¹¹ The licenses for the 73 Stations were originally issued on September 22, 1998, as a result of Auction No. 17.¹²

5. SHT was originally required to demonstrate substantial service on September 22, 2008, or 10 years after the initial license grant date.¹³ On April 11, 2008, in the *LMDS Order*, the Wireless Telecommunications Bureau (the "Bureau") granted the requests for extension of the construction deadlines filed by a large group of LMDS licensees to extend their deadlines to meet the substantial service requirements to June 1, 2012, resulting in a nearly four year construction extension for each of the

⁴ *Id.*

⁵ *Id.*

⁶ See 47 C.F.R. § 101.1013(b).

⁷ See *Second LMDS Report and Order*, 12 FCC Rcd at 12656-12657 ¶ 259. Pursuant to 47 C.F.R. § 101.67, LMDS licenses are issued for a period not to exceed ten years, subject to renewal upon demonstration of substantial service.

⁸ See 47 C.F.R. § 101.1011(a); see also *Second LMDS Report and Order*, 12 FCC Rcd at 12657-12658 ¶¶ 261-262.

⁹ See 47 C.F.R. § 101.1011(a).

¹⁰ See, e.g., LMDS Auction Closes, *Public Notice*, 13 FCC Rcd 18217 (1998) (*Auction 17 Closing PN*); Local Multipoint Distribution Service Auction Closes, *Public Notice*, 14 FCC Rcd 8543 (1999) (*Auction 23 Closing PN*).

¹¹ See FCC Announces Spectrum Auction Schedule for 1998, *Public Notice*, 12 FCC Rcd 19726 (1997); *Auction 17 Closing PN*, 13 FCC Rcd at 18217.

¹² See File No. 0000000111 (granted Sep. 22, 1998). The licenses were originally issued to Baker Creek Communication, L.P.. See Baker Creek Communications, L.P., *Memorandum Opinion and Order*, 13 FCC Rcd 18709, 18727-18729 (1998); see also FCC Announces the Conditional Grant of 265 Local Multipoint Distribution Service Licenses, *Public Notice*, 13 FCC Rcd 18551 (WTB 1998). Ownership of the licenses was transferred to SHT on June 5, 2012. See File No. 0005242363 (filed May 31, 2012, consented to June 1, 2012, consummated June 1, 2012). See also Assignment of License Authorization Applications, Transfer of Control of License Applications, *De Facto* Transfer Lease Applications and Spectrum Manager Lease Notifications, Designated Entity Reportable Eligibility Event Applications, and Designated Entity Annual Reports Action, Report No. 7837, *Public Notice* (WTB June 13, 2012) at 19. A list of the licenses is contained in Appendix A to this *Memorandum Opinion and Order*.

¹³ See 47 C.F.R. § 101.1011(a).

licenses, including licenses for the 73 Stations.¹⁴ The Bureau found that the LMDS licensees faced factors beyond their control, including difficulties in obtaining viable and affordable equipment that warranted an extension.¹⁵ In making this finding, the Bureau noted that the licensees seeking relief from the construction deadlines represented a majority of LMDS licensees for whom buildout requirements were approaching, and that they all faced these same basic obstacles to timely construction.¹⁶ Thus, these obstacles were not a product of an individual licensee's short-sightedness or its unfortunate business decisions; rather, the difficulties in procuring the basic equipment necessary for LMDS operations were widespread, stemming from the state of the market. Based on the record evidence, the Bureau anticipated that various developments in the market – arising in large part from the rollout of new services that could provide opportunities for LMDS operations – would help rectify these difficulties. Thus, the Bureau found that LMDS licensees could potentially use their licenses to provide wireless backhaul services to licensees in the 700 MHz band, the Advanced Wireless Services-1 (“AWS-1”) band, and other bands suitable for mobile broadband service, all of which at that time had recently been auctioned, licensed, or put into use.¹⁷ The Bureau anticipated that these bands would develop robustly, along with other mobile and fixed wireless services, and that resulting opportunities for associated LMDS service (such as wireless backhaul) would help spur production of equipment designed for LMDS use and thus facilitate timely construction by LMDS licensees, under the extended buildout deadline set by the Bureau.¹⁸

6. On July 23, 2012, the Commission granted SHT's request for a 60-day extension of time, until July 31, 2012, to comply with the substantial service obligations.¹⁹ In accordance with section 101.1011 of the Commission's rules, on July 17, 2012, SHT filed Construction Notifications covering a large number of LMDS licenses including those covering the 73 Stations.²⁰ SHT attached its substantial service showings to the construction notifications.²¹ SHT stated that it clearly satisfies the safe harbor requirement for point-to-multipoint licensees because it has recently constructed point-to-multipoint hub facilities which provide fixed wireless coverage to over 20 percent of the population in each of the subject BTA's.²² SHT thus asked the Commission to grant SHT's renewal requests for the 73 Stations for a full 10 year term.²³ The Wireless Telecommunications Bureau (“Bureau”) returned these notifications stating that the FCC's independent analysis of the system described “will not provide coverage to at least 20% of

¹⁴ Applications filed by Licensees in the Local Multipoint Distribution Service (LMDS) Seeking Waivers of Section 101.1011 of the Commission's Rules and Extensions of Time to Construct and Demonstrate Substantial Service, *Memorandum Opinion and Order*, 23 FCC Rcd 5894 (WTB 2008) (*LMDS Order*).

¹⁵ *LMDS Order* at 5905 ¶ 24.

¹⁶ *LMDS Order* at 5905 ¶ 24.

¹⁷ *LMDS Order* at 5905 ¶ 25.

¹⁸ *LMDS Order* at 5905 ¶ 25.

¹⁹ See Appendix A for the file numbers of the relevant extension applications.

²⁰ The file numbers for the Construction Notifications for the 73 Stations are contained in Appendix A. With each Construction Notification, SHT submitted an exhibit entitled Demonstration of Substantial Service (“Substantial Service Showings”). While the specific information relating to each license differed, SHT made the same arguments for each license. With respect to SHT's other licenses, which are outside the scope of this *Memorandum Opinion and Order*, the Bureau has found that SHT demonstrated substantial service and accepted construction notifications for those licenses.

²¹ See 47 C.F.R. § 101.1011(a).

²² See Substantial Service Showings at 1.

²³ See Substantial Service Showings at 4.

the population” in the licensed service area.²⁴ SHT was permitted to submit an engineering analysis that demonstrated that SHT was able to provide service to the required 20 percent of the population in each service area.²⁵

7. On June 3, 2013, SHT submitted a Waiver and Revised Substantial Service Application to the Commission.²⁶ On July 5, 2013, SHT provided information on SHT’s use of beam bending radio repeaters to provide line of sight connectivity in areas of obstruction from the hub to the customer premise asserting that “using this technique virtually 100% of the area within the BTA out to maximum range can be accomplished.”²⁷ On August 10, 2013, the Bureau requested that SHT supplement the record by providing information on the locations where SHT had installed beam bending radio repeaters in the particular market prior to the construction deadline.²⁸

8. On November 2, 2013, SHT filed a response to the Bureau’s request. In that response, SHT admitted that it had not installed the beam bending radio repeaters in the subject markets prior to the construction deadline but alleged that the installation of beam benders was not necessary to meet the FCC’s substantial service safe harbor standard.²⁹ SHT argues that the Commission routinely accepts construction notifications based on predicted coverage areas without reference to “dead spots” that may occur because of obstructions.³⁰ It contends that it could use beam benders as Customer Premise Equipment (CPE) which would be employed as part of the customer premise installation in order to avoid signal loss caused by obstructions.³¹ SHT believes it would be impractical and contrary to Commission policy to require it to install such equipment in the absence of customer demand.³² Finally, SHT pleads that it should not lose its licenses over a “novel interpretation” of a coverage requirement.³³

III. DISCUSSION

9. We find that SHT has not demonstrated substantial service for the subject LMDS licenses for the 73 Stations. Based on this determination, SHT’s licenses for the 73 Stations have automatically terminated, by operation of Sections 1.946(c) and 1.955(a)(2) of the Commission’s Rules, as of July 31, 2012.³⁴ We discuss these findings in detail below.

²⁴ Construction Notifications, Notices of Return (Apr. 5, 2013, May 31, 2013, June 19, 2013). The reference number and date of each individual first notice of return is in the Appendix.

²⁵ *Id.*

²⁶ Construction Notifications, Waiver and Revised Substantial Service Application (filed June 3, 2013).

²⁷ Construction Notifications, Additional Exhibit (filed July 5, 2013).

²⁸ Construction Notifications, Notices of Return (Aug. 10, 2013). The reference number of each individual notice of return is in the Appendix.

²⁹ See Construction Notifications, Response to Bureau Request for Information (filed Nov. 2, 2013) (“November 2nd Response”) at 3.

³⁰ November 2nd Response at 5-9.

³¹ November 2nd Response at 9-11.

³² November 2nd Response at 11-12.

³³ November 2nd Response at 13.

³⁴ 47 C.F.R. §§ 1.946(c) (providing that if a licensee in the Wireless Radio Services fails to commence service or operations by the expiration of its construction period or to meet its coverage or substantial service obligations by the expiration of its coverage period, its authorization terminates automatically, without specific Commission action, (continued....))

10. To demonstrate substantial service, SHT must show that it meets the Commission's definition of substantial service or that it meets one of the safe harbors applicable to LMDS licenses. The Commission defined "substantial service" as "service that is sound, favorable, and substantially above a level of mediocre service that just might minimally warrant renewal."³⁵ The purpose of the substantial service showing is to "promote efficient use of the spectrum, encourage the provision of service to rural, remote, and insular areas, and prevent the warehousing of spectrum."³⁶ Failure by any licensee to meet this requirement will result in forfeiture of the license and the licensee will be ineligible to regain it.³⁷

11. The Commission has elaborated on what may constitute "substantial service" for LMDS by offering some specific examples, which are sometimes referred to as "safe harbors," to provide LMDS licensees with a degree of certainty as to how to comply with the substantial service requirement by the end of the initial license term.³⁸ The Commission explained that an LMDS licensee that chooses to offer fixed, point-to-point services may fall within a "safe harbor" by constructing four permanent links per one million people in its licensed service area.³⁹ The Commission also elaborated that an LMDS licensee electing to deploy point-to-multipoint services may fall within a "safe harbor" by demonstrating coverage to 20 percent of the population in the licensed BTA.⁴⁰ These "safe harbors" only serve as examples of what may constitute substantial service, and the Commission reviews licensees' showings on a case-by-case basis.⁴¹

12. While SHT claims that it provides coverage to more than 20 percent of the population in each licensed service area,⁴² staff analysis indicates that the transmitters do not provide line-of-sight coverage to 20 percent the BTA population.⁴³ Indeed, with respect to 29 of the 73 Stations, staff analysis shows that SHT has no coverage whatsoever because terrain blockage prevents SHT from having usable signal from the transmitter which is located in an adjacent area.⁴⁴ In another 32 instances where SHT is

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on the date the construction or coverage period expires) and 1.955(a)(2) (cross-referencing Section 1.946(c) and reiterating that authorizations in the Wireless Radio Services automatically terminate without specific Commission action, if the licensee fails to meet applicable construction or coverage requirements).

³⁵ *Second LMDS Report and Order*, 12 FCC Rcd at 12658 ¶ 261; *see also id.* at 12660 ¶ 269.

³⁶ *Second LMDS Report and Order*, 12 FCC Rcd at 12659 ¶ 266.

³⁷ *See* 47 C.F.R. § 101.1011(a).

³⁸ *See Second LMDS Report and Order*, 12 FCC Rcd at 12660-12661 ¶¶ 269-270.

³⁹ *See Second LMDS Report and Order*, 12 FCC Rcd at 12660 ¶ 270.

⁴⁰ *See Second LMDS Report and Order*, 12 FCC Rcd at 12660 ¶ 270.

⁴¹ *See Second LMDS Report and Order*, 12 FCC Rcd at 12660-12661 ¶ 270. For example, the Commission may also consider such factors as whether the licensee is offering a specialized or technologically sophisticated service that does not require a high level of coverage to be of benefit to customers, and whether the licensee's operations serve niche markets or focus on serving populations outside of areas served by other licensees. *See Second LMDS Report and Order*, 12 FCC Rcd at 12660 ¶ 270.

⁴² Substantial Service Showings at 1.

⁴³ Bureau staff determined line of sight with RF planning software that uses terrain data with a horizontal resolution of 30 meters. Staff assumed an antenna height of 200 feet above ground, which is the maximum height permissible without a tower registration. The analysis is likely to overstate SHT's actual coverage because most antennas are installed at a lower height above ground. Population coverage was estimated by overlaying the area that had line of sight coverage on United States census block data to estimate the population covered.

⁴⁴ The call signs of the 29 stations are WPOH694, WPOH700, WPOH704, WPOH705, WPOH753, WPOH754, WPOH771, WPOH775, WPOH776, WPOH792, WPOH793, WPOH798, WPOH808, WPOH809, WPOH810, (continued....)

attempting to provide service using a transmitter located outside the service area of the station, staff analysis shows that SHT service area is limited to less than 10 percent of the population because of terrain blockage.⁴⁵ Finally, staff analysis of the other 12 stations shows coverage to between 10 percent and 19 percent of the population.⁴⁶

13. In response to staff inquiries, SHT counters that in the event a customer is unable to receive service from the hub, SHT can address the issue by utilizing beam benders that could be installed upon demand for any customer where an obstruction posed an issue with connectivity to the hub.⁴⁷ Thus, SHT argues that SHT “was at all times able to provide coverage to the entirety of the demonstrated predicted coverage area from the hub base.”⁴⁸ We reject this argument for two reasons. First, our analysis shows that there is a total inability to provide a usable signal in the areas claimed by SHT because there is no line of sight between SHT’s transmitters and the areas in question. SHT’s coverage studies are defective because they fail to consider terrain. We agree with SHT that there can be legitimate circumstances in which a study reasonably predicts coverage but obstructions or other circumstances prevent the licensee from providing service without supplemental equipment such as a “beam bender.” Here, however, SHT’s coverage claims are not reasonable because its studies ignore terrain.

14. A second reason for rejecting reliance on SHT’s proposed use of beam benders for potential new customers who lack line-of-sight access to the hub is that it has not yet installed them.⁴⁹ The Commission’s rules clearly define substantial service as service as of the time of license renewal, not at a later, indeterminate time when the licensee might or might not decide to provide that service.⁵⁰ SHT’s argument that it should not be required to install beam benders before there is customer demand misses the point. While the Commission provided SHT with great flexibility in terms of the means by

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WPOH817, WPOH837, WPOH841, WPOH844, WPOH845, WPOH852, WPOH856, WPOH859, WPOH876, WPOH886, WPOH891, WPOH906, WPOH919, and WPOH920.

⁴⁵ The call signs of the 32 stations are WPOH699, WPOH703, WPOH714, WPOH727, WPOH742, WPOH743, WPOH746, WPOH755, WPOH760, WPOH761, WPOH766, WPOH767, WPOH772, WPOH773, WPOH779, WPOH807, WPOH819, WPOH826, WPOH827, WPOH838, WPOH842, WPOH850, WPOH868, WPOH870, WPOH874, WPOH879, WPOH888, WPOH892, WPOH899 (transmitter is within service area but terrain limits coverage), WPOH900, WPOH907, and WPOH910.

⁴⁶ The call signs of the 12 stations are WPOH735, WPOH759, WPOH764, WPOH780, WPOH811, WPOH821, WPOH824, WPOH840, WPOH861, WPOH867, WPOH882, and WPOH922. Two of the stations (WPOH759 and WPOH867) have estimated coverage between 15 percent and 19 percent of their service area. SHT has failed to provide any additional information concerning the service provided by those stations that would allow us to make a finding of substantial service on a case-by-case basis.

⁴⁷ See November 2nd Response at 2.

⁴⁸ *Id.*

⁴⁹ The Division is not making a determination that beam benders are not to be considered in determining coverage. Rather, we find that beam benders that were not installed at the time of the construction deadline cannot be used to claim coverage in order to meet a substantial service requirement.

⁵⁰ See, e.g., 47 C.F.R. § 101.1011(c)(1) (requiring LMDS renewal applicants to provide “[a] description of its current service in terms of geographic coverage and population served . . .” In a case involving another LMDS service, where licensees had to demonstrate substantial service at license renewal, the Bureau declined “to make a finding of substantial service where the licensee is not currently providing service within the licensed area.” See SPEEDUSNY.COM, *Memorandum Opinion and Order and Order on Reconsideration*, 22 FCC Rcd 13974, 13984-13985 ¶ 17 (WTB 2007).

which it provided substantial service, SHT was clearly required to meet the substantial service requirement by July 31, 2012. In the absence of some equipment that would provide a usable signal to an area, whether that equipment is a hub facility or beam bender, we cannot credit SHT's coverage claims.

15. Finally, we reject SHT's argument that our analysis constitutes a "novel interpretation" of the LMDS substantial service requirement. We are not modifying the substantial service requirement in any way. SHT is claiming that it provides service to 20 percent of the population in each license's service area and that it therefore meets the substantial service safe harbor established by the Commission. Our analysis is designed to evaluate that claim. In those instances where our analysis confirmed SHT's claims, we have accepted their substantial service claims. With respect to the 73 licenses at issue in this *Memorandum Opinion and Order*, our analysis fails to corroborate SHT's coverage claims. Our consideration of line-of-sight in analyzing coverage showings is not a new approach.⁵¹ We also note that technology is not static; a tool that was acceptable in the past does not mean that the specific analytical tool must be acceptable forever. The Commission is not limited to using the same methods it uses to evaluate coverage showings if new or improved analytical tools are available at the time of the analysis.

16. We therefore conclude that SHT has not met the 20 percent population coverage safe harbor for these LMDS licenses. Furthermore, SHT has failed to provide additional information concerning its operations that would allow us to make a finding of substantial service based on those links on a case-by-case basis. It has therefore failed to demonstrate substantial service standard under the Commission's rules for the 73 Stations. It has not sought a further extension of time to meet the substantial service deadline for the 73 Stations, nor has it sought a waiver of the July 31, 2012 deadline for establishing substantial service for those licenses. Without such extension or waiver, those licenses automatically terminated, by operation of sections 1.946(c) and 1.955(a)(2) of the Commission's rules, on July 31, 2012.⁵²

IV. CONCLUSION AND ORDERING CLAUSES

17. SHT has failed to demonstrate substantial service for the licenses in question. Accordingly, SHT's licenses to operate the 73 Stations listed in the Appendix automatically terminated, by operation of Commission rule, as of July 31, 2012.

18. Accordingly, IT IS ORDERED, pursuant to Sections 4(i) and 309 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 309, and Section 1.946 of the Commission's Rules, 47 C.F.R. § 1.946, that the requests for findings of substantial service made by Spectrum Holdings Technologies, LLC on July 17, 2012, as amended, and as listed in the Appendix ARE DENIED.

19. IT IS FURTHER ORDERED that, pursuant to Sections 4(i) and 303(r) of the Communications Act, as amended, 47 U.S.C. §§ 154(i), 303(r), and Section 1.955(a)(2) of the Commission's Rules, 47 C.F.R. § 1.955(a)(2), that the Universal Licensing System SHALL BE

⁵¹ See Nextlink Wireless, LLC, *Memorandum Opinion and Order*, 29 FCC Rcd 309, 312 ¶ 7 (WTB BD 2014), *application for review pending* (rejecting 39 GHz substantial service showing where staff analysis evaluating line of sight showed only six percent of the population in the license area received service).

⁵² 47 C.F.R. §§ 1.946(c), 1.955(a)(2).

UPDATED to reflect that the licenses issued to Spectrum Holdings Technologies, LLC for the 73 Stations listed in the Appendix TERMINATED as of July 31, 2012.

20. These actions are taken under delegated authority pursuant to Sections 0.131 and 0.331 of the Commission's Rules, 47 C.F.R. §§ 0.131, 0.331.

FEDERAL COMMUNICATIONS COMMISSION

John J. Schauble
Deputy Chief, Broadband Division
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